

Climatological Data for October, 1910.
DISTRICT No. 9, COLORADO VALLEY.

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GENERAL SUMMARY.

The weather conditions during October in the region drained by the Colorado were even finer than usual. In most respects the conditions closely resembled those common to September. High temperatures were persistent, and while killing frosts occurred they were not generally noted until the close of the second decade. Rains fell in districts where, as a general thing in October, the precipitation is in the form of snow.

The month opened with increasing cloudiness, due to a low that developed in Utah; rain followed on the 2d over the greater part of the drainage area, and sharp falls in temperature occurred in the central and northern parts of the district with the movement of the low center to the eastern slope. On the morning of the 3d high pressure with clear skies obtained over all but the extreme southwestern part of the district; and frosts, mostly light, were generally reported. Under the influence of a northern low, the pressure fell rapidly during the night of the 4th, followed quickly by a corresponding rise in pressure, some cloudiness, and but little precipitation. Frosts were noted in localities on the morning of the 4th. Uninterrupted stationary high pressure, with clear skies, then prevailed for nearly a week. From the 10th to the 18th low pressure areas exerted a controlling influence, although a few highs of slight intensity moved from the west across the northern part of the district. During the first few days of this period there were a few local rains, then followed general precipitation in the northern part of the district, lasting until the 20th, except in Arizona, where the rains were scattered. The anticyclone that appeared in the north on the morning of the 18th, moved south, and two days later its crest overlay the extreme northern part of the district. Snow fell generally in the mountain region of central Colorado and northwestern New Mexico, and hard freezing weather occurred, except in the southern parts of Arizona and adjacent region in New Mexico. The high pressure was slow in dissipating, and it was not until the 25th that disintegration set in, only to be followed within 36 hours by another high from the north, which gave a return to clear skies, lasting until the end of the month. During the last decade precipitation occurred at a few stations in Arizona.

TEMPERATURE.

The mean of the 121 stations reporting was 56.0° , or 1.1° above the normal. By subdivisions the means and departures were: Western Wyoming, 40.4° , $+1.1^{\circ}$; western Colorado, 44.3° , $+0.6^{\circ}$; eastern Utah, 50.4° , $+2.3^{\circ}$; western New Mexico, 54.8° , $+1.1^{\circ}$; Arizona, 64.9° , $+0.9^{\circ}$; and southeastern Nevada, 59.6° . The highest monthly mean was 86.2° at Casa Grande, Ariz., and the lowest, 30.0° , at Corona, Colo.

Temperatures averaged slightly below the normal at the beginning of the month. In Arizona from the 4th to the 11th they were much above the normal, and the same is true of the central and northern parts of the district from the 7th to the 14th, inclusive. In southern Arizona, which was first to experience the change to cooler, temperatures were considerably below the normal from the 12th to the 21st, while in the central and northern parts of the district the cool period was shorter, extending from the 17th to the 22d, inclusive. The deficiency, however, was marked on the 19th, 20th, and 21st. During the last eight or nine days temperatures were again above the normal, especially in Arizona. By subdivisions the temperature extremes were: Western Wyoming, 84° and 4° ; western Colorado, 90° and -5° ; eastern Utah, 96° and 16° ; western New Mexico, 98° and 5° ; Arizona, 110° and 16° ; southeastern Nevada, 101° and 27° . In the southern and central parts of the district the

maximum temperatures recorded on the 8th or 9th are the highest of record for October.

PRECIPITATION.

The average precipitation for the 169 stations reporting was 1.00 inch, or 0.05 inch below the normal. By watersheds the means and departures were: Green, 1.38 , $+0.24$; Grand, 1.78 , $+0.41$; San Juan, 3.02 , $+1.01$; Little Colorado, 0.56 , -0.41 ; Gila, 0.22 , -0.37 ; Mimbers, 0.31 , -0.57 ; and Colorado, proper, 0.90 , $+0.44$ inch. There were two periods of precipitation; the first beginning in Utah and Arizona on the 1st of the month, and ending in Colorado and Wyoming on the 4th. The other period extended from the 12th to the 20th and was of more importance, as precipitation was general in Colorado and Utah and fairly well distributed in the remainder of the district. On the 16th and 17th heavy snow fell in the mountains of Colorado the following being among the heavier 24-hour falls, expressed in water equivalents: Bedrock, 1.05; Cascade, 2.39; Craig, 1.10; Gladstone, 1.16; Ironton, 1.31; Lake City, 1.10; Montrose, 1.30; Pagosa Springs, 1.08; Silverton, 1.23; and Silverton (near), 2.50 inches. The greatest monthly amount was 6.77 inches at Cascade, Colo., while none occurred at four stations in New Mexico and four stations in Arizona. The greatest monthly snowfall was 68 inches at Corona, Colo. The average number of days with 0.01 inch or more of precipitation was 4.

MISCELLANEOUS.

The percentage of sunshine was below the normal in southwestern Colorado and central Arizona; elsewhere there was generally an excess. Grand Junction reported 76, Durango, 70; Flagstaff, 87; Phoenix, 84; and Yuma, 96 per cent of the possible.

The mean relative humidity reported was as follows: Grand Junction, 49; Durango, 58; Flagstaff, 50; Phoenix, 39; and Yuma, 44 per cent.

DUTY OF WATER.

By A. L. FELLOWS, Consulting Engineer.

Volumes already have been, and much more might be written regarding the "duty of water" in the arid regions. The subject has been discussed in the reports of The Division of Irrigation Inquiry, United States Department of Agriculture, in numerous agricultural college bulletins, and in many works on irrigation. A few of the underlying principles regarding the duty of water are:

1. By the term "duty of water," we mean that amount of water necessary to irrigate a given amount of land to the best possible advantage; thus, for example, under certain conditions, the duty of water upon a given tract of land may be 1 acre-foot per acre, under other conditions on another tract, it may be 2 acre-feet per acre, provided only that the best results under the existing conditions are obtained. In general, however, the term is somewhat loosely used and is often understood to mean the amount of water actually applied to land, whether such application is beneficial or not. Thus, it is stated in some of our irrigation works that the duty of water upon certain described tracts is as much as 15 acre-feet per acre and even more, though there is no possibility whatsoever that any such amount of water was actually used to good advantage upon such land.

2. The meaning of the term varies under an infinite number of conditions. Thus, when we are referring to water being taken from a natural running stream, we must take into consideration loss in transit by evaporation; where storage is practised, loss in laterals and in distributing ditches occurs, consequently it should

TABLE 1.—*Climatological data for October, 1910. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Battle Mountain.	Carbon.	7,300	11	39.1	+ 1.1	76	10	4	26	56	0.42	- 0.28	0.25	T.	2	17	13	1	nw.	
Daniel.	Uinta.	6,740	11	41.6	+ 1.1	84	10	9	28	52	1.02	- 0.17	0.31	0.5	5	16	8	7	w.	
Eden.	Sweetwater.	6,577	2	45.0	+ 1.0	86	10	13	23	58	0.70	+ 0.17	0.35	0.0	8	20	3	8	w.	
Green River.	do.	6,083	5	45.0	+ 1.0	86	10	13	23	58	0.70	+ 0.17	0.35	0.0	8	20	3	8	w.	
Pinedale.	Fremont.	7,167	4																	
Rambler.	Carbon.	9,232																		
Willow Creek Cabin.	Freemont.	7,600	2																	
<i>Colorado.</i>																				
Ashcroft.	Pitkin.	9,483	8	38.8		76	10	1	21	45	1.88		0.38	12.0	9					
Bed Rock.	Montrose.																			
Breckenridge.	Summit.	9,538	20	36.5	+ 1.1	73	9	- 4	20	52	0.85	- 0.53	0.28	8.0	6	11	14	6	w.	
Cascade.	San Juan.	8,900	4																	
Chromo.	Archuleta.	7,500	4	45.6 ^b		85	8†	0	24	66 ^b	1.67		0.35	0.0	3					
Cochetopa.	Saguache.	9,088																		
Colbran.	Mesa.	6,000	17	48.7		79	9†	20	20†	37	2.25	+ 1.11	0.78	0.0	7	22	2	7	sw.	
Columbine.	Routt.	8,786																		
Corona.	Delta.	6,925																		
Crawford (near).	Grand.	11,660	3	30.0		80	9	3	21	28	5.16		1.80	68.0	7	5	16	10	s.	
Montrose.	Montrose.	6,600		44.3		81	9	20	21	37	1.72		0.87	1.0	8	22	2	7	w.	
Crested Butte.	Gunnison.	8,887		37.8		73	1	11	24	57	1.70		0.80	8.8	6	20	7	4		
De Beque.	Mess.	4,935																		
Delta.	Delta.	4,965	19	50.6	+ 0.5	90	11	23	24	60	1.30	+ 0.62	0.77	T.	3	18	8	5		
Dillon.	Summit.	8,800	1																	
Dolores.	Montezuma.	6,500	1																	
Durango.	La Plata.	6,534	17	48.7	- 0.1	83	9	19	21	46	2.91	+ 1.40	0.85	3.4	9	15	10	6	sw.	
Eagle.	Eagle.	6,598	5	41.8		83	10	10	21†	58	0.57		0.20	0.0	5	24	1	6	w.	
Eureka.	San Juan.	10,000	3																	
Fraser.	Grand.	8,560		34.8		75	8†	- 3	20	61	0.89		0.31	6.5	5	20	7	4	w.	
Fruita.	Mess.	4,510	11	50.6	+ 0.8	88	1	22	28†	53	1.59		0.85	0.0	5	21	5	5		
Gladstone.	San Juan.	10,400	3																	
Glenwood Springs (near).	Garfield.	5,933	12	46.9		88	8	14	28	60	0.90	- 0.18	0.30	0.0	7	22	1	8	w.	
Grand Junction.	Mesa.	4,608	19	53.0	- 0.3	85	10	27	29	43	1.26	+ 0.33	0.97	0.0	6	20	6	5	nw.	
Grandlake.	Grand.	8,153	2																	
Grand Valley.	Garfield.	5,089	18	51.2	+ 1.3	89	10	18	29	56	2.02	+ 0.97	0.74	0.0	6	23	2	7		
Horsefly.	Montrose.	7,670	17	41.0	- 0.4	78	10†	7	29	65	0.90	+ 0.29	0.46	2.5	5	24	5	2		
Ironton.	Ouray.	8,700																		
Kremmling (near).	Grand.	10,000	1																	
Lake City.	Hinsdale.	8,688	5	43.0		78	10	9	21	50	2.43		1.10	5.7	8	18	8	5	s.	
Lay.	Routt.	6,190	16																	
Leal.	Grand.	8,750																		
Lujane.	Montrose.	6,620	4																	
Mancos.	Montezuma.	6,960	11	49.8	+ 1.7	83	9	20	21	49	2.43	+ 1.52	0.76	1.0	7	17	9	5	nw.	
Marble.	Gunnison.	7,951	1	43.2		82	10	10	21	56	2.31		0.69	5.0	10	21	2	8	ne.	
Marshall Pass.	Saguache.	10,346	7																	
Meeker.	Rio Blanco.	6,183	18	44.8	+ 1.0	83	9	10	28	57	1.98	+ 0.67	T.	5	23	3	5	sw.		
Montrose (near).	Montrose.	5,911	21	45.6	- 2.3	85	9	18	21†	53	1.92	+ 1.11	1.30	0.0	7	23	3	5		
Nast.	Pitkin.	7,953		41.2		76	8†	10	20	46	1.40		0.60	7.2	6	23	0	8	w.	
Pagoda.	Eagle.	6,500	19	46.6	+ 2.4	90	10	11	21	61	1.60	- 0.01	0.72	0.5	7	24	2	5		
Pagonia Springs.	Archuleta.	7,108	3	44.6		85	8	- 5	21	59	2.42		1.08	5.0	7	18	5	8		
Parshall.	Delta.	5,694	15	50.8		83	9	27	28	38	1.76		0.88	0.0	6	18	7	6	sw.	
Pitkin.	Grand.	9,500	1																	
Rangely.	Gunnison.	5,080	11	47.8	+ 1.6	85	10	18	29	56	1.39	+ 0.47	0.63	0.5	15	10	6	6	s.	
Redcliff.	Eagle.	8,695	15																	
Rico.	Dolores.	8,924	8																	
Rife.	Garfield.	5,437																		
River Portal.	Montrose.	6,570	4	47.2		85	8†	17	20	51	1.98		0.69	T.	4	23	1	7		
Sapinero (near).	Gunnison.	8,125	8	41.0		76	9	6	21	48	2.45		0.61	8.1	9	23	3	5	w.	
Shoshone.	Garfield.	6,110		48.4		75	9†	24	21†	33	1.04		0.47	T.	6	22	1	8		
Silverton (1).	San Juan.	9,285	6	42.4		79	8†	10	21	58	3.47		1.23	11.0	9	19	2	10	s.	
Silverton (near).	Grand.	9,400	3	37.3		71	8†	5	21	48	4.86		3.50	4.5	4	22	3	6	sw.	
Spruce Lodge.	La Plata.	9,600																		
Steamboat Springs.	Tacoma.	6,683	7	41.3		89	10	6	28	71	1.87		0.96	T.	4	25	3	4		
Terminal Dam.	do.	7,300	3	47.6		82	9	19	21	45	4.01		1.20	7	31	1	9			
Terrill's Ranch.	Mesa.	8,000	3																	
Uncompahgre Plateau.	Montrose.	8,400																		
Whitepine.	Routt.	9,500	10																	
Yampa (near).	Gunnison.	8,000	1																	
<i>Utah.</i>																				
Baker.	San Juan.	7,560	1																	
Basin.	Grand.	9,500	1																	
Castle Dale.	Emery.	5,500	11	47.8 ^b	+ 0.3	83	10†	20	22	51 ^b	0.85	+ 2.20	0.45	0.0	3					
Elkhorn.	Unita.	6,657																		
Emery.	Emery.	6,260	10	50.7	+ 4.7	82	11	28	30	51	0.95	+ 0.30	0.50	0.0	2	17	0	14	n.	
Escalante.	Garfield.	5,700	10	50.6	+ 0.2	81	8†	22	39	1.31	+ 0.54	0.65	0.4	5	25	0	6	s.		
Fort Duchesne.	Uinta.	5,000	22	47.8	+ 1.4	83	10	17	29	52	0.01	+ 0.33	0.47	0.0	5	25	0	6	se.	
Fruitland.	Wasatch.			43.2		76	10	16	28	45	1.84		0.62		8	17	6	8		
Grayson.	San Juan.	5,750	6																	
Green River.	Emery.	4,080	13	55.5	+ 3.2	88	8†	22	29	55	0.30	+ 0.10	0.19	0.0	3	26	4	1		
Hanksville.	Wayne.																			
Hite.	Garfield.	3,000	11	60.4		91	10	33	39	46	0.67		0.22	0.0	5	21	7	3		
La Sal.	San Juan.	7,000	10	48.2	+ 3.1	81 ^b	9†	16 ^b	20	38 ^b	1.03	+ 0.37	0.63	0.0	5	20	6	5		
Loa.	Wayne.	7,000	18																	
Manila.	Unita.																			
Moab.	Grand.	4,000	21	54.4	+ 1.1	90	1	24	29	42	1.12		0.55	T.	7	16	5	10		
Monticello.	San Juan.	2																		
Orderville.	Kane.	1																		
Price.	Carbon.	5,557																		
Ranch.	Kane.	6,700	9	47.5		81	10	21	20	48	2.07		1.36		6	25	0	6	w.	
Saint George.	Washington.	2,880	29	59.8	+ 5.0	96	9†	29	22	57	0.91	+ 0.42	0.64	0.0	3	18	9	4		
Scofield.	Carbon.	7,625	2																	
Springdale.	Washington.																			
Sunnyside.	Carbon.	5,280	5																	
Teasdale.	Wayne.	7,000	2	47.4		75	1	23	20	32	2.39		0.80	T.	6					
Theodore.	Wasatch.	5,507	5	44.8	</td															

TABLE 1.—Climatological data for October, 1910. District No. 9—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Observers	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of partly cloudy days.	Prevailing wind direction.		
Utah—Cont'd.																			
Tropic.	Garfield.	7,000	13	50.7	+ 3.6	84	10	20	21	51	2.18	+ 1.50	1.24	0.0	5	18	11	nw.	
Trout Creek Ranger.	Units.	9,200									2.85	0.60	20.0	8	17	7	7	Forest Supervisor.	
Vernal.	do.	5,050	15	47.4	+ 0.4	83	9†	19	28	51	1.28	+ 0.42	0.65	0.0	6	22	7	S. P. Trim.	
New Mexico.																			
Alma.	Socorro.	5,500	14	58.0	+ 1.8	98	1	24	22	59	0.55	- 0.94	0.29	0.0	3	15	1	se.	
Aragon.	do.	5,856	3	48.5		84	8	12	21	54	1.03		0.65	0.0	2	22	9	sw.	
Blackrock.	McKinley.	6,500	2	52.4		87	8	24	21†	51	0.52		0.34	0.0	2	20	10	sw.	
Bloomfield.	San Juan.	5,500	15	50.9	+ 0.9	89	9	23	28	54	1.03	+ 0.33	0.37	T.	6	19	8	sw.	
Cambrey.	Luna.	4,215	11								T.	- 0.63	0.3	0.0	0	19	2	10	e.
Columbus.	do.	4,054	1			87	7	27	21		0.03		0.03	0.0	1	20	0	nw.	
Deming.	do.	4,333	33	62.3		95	1†	22	20	55	0.00	- 0.67	0.00	0.0	0	15	7	w.	
Dulce.	Rio Arriba.	6,767	3	45.4	+ 0.7	87	8	5	21	62	2.24	+ 0.78	0.70	12.2	8	19	7	sw.	
Fort Bayard.	Grant.	6,152	35	59.0	+ 2.1	85	5	30	22	38	0.43	- 0.66	0.28	0.0	2			nw.	
Fort Wingate.	McKinley.	6,987	46	51.0	+ 1.0	85	3	20	21	50	0.80	- 0.21	0.20	T.	6	10	9	sw.	
Fruitland.	San Juan.	4,800	17	52.0	+ 0.9	90	9	23	23	58	1.45	+ 1.03	0.40	0.0	7	17	8	nw.	
Gage.	Luna.	4,456	3			92	2	33	27	49	0.00	- 0.32	0.00	0.0	0			w.	
Gila (near).	Grant.	4,470	11	59.0	+ 0.5	94	1†	26	21	63	0.41	- 0.68	0.28	0.0	2			T. J. Clark, sr.	
Gila Planting Station.	do.	6,475		56.2		84	8	28	21	40	0.64		0.25	0.0	5	26	3	s.	
Hachita.	Rio Arriba.	4,504	1								T.		0.0	0	21	9	1	se.	
Haynes.	do.	6,600									2.26		0.82	2.5	6	24	5	nw.	
Hermanas.	Luna.	4,451	1								0.00		0.00	0	0	27	4	sw.	
Lordsburg.	Grant.	4,245	10	62.8	+ 1.0	94	8	33	21†	56	0.00	- 0.64	0.00	0.0	0	15	12	e.	
Luna.	Socorro.	7,300	5								0.80		0.40	0.0	3	22	7	se.	
Mimbres.	Grant.	5,007	5								0.00		0.00	0	0	26	5	w.	
Pratt.	do.	4,415	1								0.37		0.25	0.0	2	20	7	4.	
Putnam.	San Juan.	6,200									0.00		0.00	0	0	31	0	El Paso & Southwest. R. R.	
Redrock.	Grant.	4,150	5								0.00		0.00	0	0			Robert H. Woods.	
Rodeo.	do.	4,118	1								0.00		0.00	0	0			El Paso & Southwest. R. R.	
Rosa.	Rio Arriba.	6,000	5								0.00		0.00	0	0			B. A. Candelario.	
Arizona.																			
Allaire Ranch.	Cochise.	4,184	14								0.11	- 0.25	0.05	0.0	2	21	7	nw.	
Arizona Canal Dam.	Maricopa.	1,372	17	73.7	+ 1.0	103	8	50	13	38	0.02	- 0.08	0.02	0.0	1	14	14	s.	
Astec.	Yuma.	492	11	76.0	- 0.3	108	9	47	23	49	0.19	+ 0.06	0.16	0.0	2	23	1	sw.	
Benson.	Cochise.	3,523	30	63.2	- 2.2	90	1†	34	17	51	0.00	- 0.64	0.00	0	0	29	2	sw.	
Bisbee.	do.	5,500	20	61.6	- 0.1	81	8	37	21	29	0.24	- 0.84	0.24	0.0	1	27	2	w.	
Bonita.	Graham.	4,916									0.12	- 0.69	0.11	0.0	2	22	8	sw.	
Bowie.	Cochise.	3,756	34	68.1	+ 3.5	95	1	41	18†	44	T.	- 0.60	0.0	0	24	5	2	sw.	
Buckeye.	Maricopa.	980	19	71.3	+ 2.4	103	8†	40	13†	56	0.02	- 0.40	0.02	0.0	1	29	2	sw.	
Camp Verde.	Yavapai.	3,180									0.05		0.05	0.0	1	13	16	sw.	
Canille.	Santa Cruz.	5,225	1								0.00	- 0.31	0.00	0	0	14	5	sw.	
Casa Grande.	Pinal.	1,398	29	82.6	+ 9.6	106	11†	59	10	46	0.00		0.00	0	0	12	9	sw.	
Cave Creek.	Maricopa.	1,520	3	69.8		104	9	41	23	51	0.19		0.15	0.0	2	22	9	sw.	
Chin Lee.	Apache.	6,090	3	51.7		90	2	19	22	52	0.75		0.42	0.0	5	16	8	7.	
Chiarsons Mill.	Graham.	8,000	3	50.8		71	3	25	18	37	0.25		0.22	0.0	2	22	8	1.	
Clifton.	do.	3,552	20	69.7		95	8	44	21	42	0.28	- 0.70	0.23	0.0	2	29	2	sw.	
Cline.	Gila.	3,300	11								0.14		0.14	0.0	1	12	1	sw.	
Cochise.	Cochise.	4,219	12	64.4	+ 1.0	90	1	34	22	49	T.	- 0.33	0.0	0	20	11	0	sw.	
Columbia.	Yavapai.	1,900	7	75.0	+ 3.7	105	8	48	14	37	0.27	- 0.28	0.25	0.0	2	23	5	sw.	
Congress.	do.	3,688	14	69.4	+ 0.1	95	8	48	15	26	0.82	+ 0.23	0.58	0.0	2	17	11	sw.	
Courtland.	Cochise.	4,543	1								0.03		0.03	0	1	10	21	0	sw.
Dos Cabos.	do.	5,250	2	60.4		95	14	27	17	53	0.00		0.00	0	0	27	4	w.	
Douglas.	do.	3,930	7	64.5		92	1	33	17	52	0.18		0.18	0	1	26	5	sw.	
Dudleyville.	Pinal.	2,204		65.4	- 0.4	98	10	37	21†	53	0.05	- 0.70	0.02	0.0	3	18	12	1.	
Fairbank.	Cochise.	3,882	1								0.14		0.14	0.0	1	27	3	1.	
Flagstaff.	Coconino.	8,907	18	47.2	+ 2.5	81	9	18	21	48	0.54	- 1.35	0.29	0.0	6	17	10	c.	
Florence.	Pinal.	1,504	11	69.4	+ 1.5	107	7	43	18†	54	0.11	- 0.39	0.09	0	2	17	14	c.	
Fort Apache.	Navajo.	5,200	39	57.0	+ 1.6	86	9	24	20	49	0.06	- 1.09	0.02	0	4	27	2	sw.	
Fort Huachuca.	Cochise.	5,100	16	61.3	- 1.5	89	8	30	17	49	0.20	- 0.47	0.20	0	1	28	3	nw.	
Fort Mohave.	Mohave.	604	37								0.00		0.00	0	0			A. F. Durlos.	
Gilabend.	Maricopa.	737	20	73.4	+ 0.5	103	8	44	17	45	0.08	- 0.27	0.06	0.0	2	25	6	sw.	
Globe.	Gila.	3,525	9	64.6		88	9	41	17	40	0.18		0.10	0.0	4	15	16	1.	
Grand Canyon.	Coconino.	6,866	7								0.67		0.35	0.8	4	21	7	3.	
Greer.	Apache.	9,200	6								0.05		0.05	0	1	25	6	s.	
Hereford.	Cochise.	4,180	1								0.05		0.05	0	0	27	3	sw.	
Holbrook.	Navajo.	5,069	20	55.1	+ 0.4	90	8†	21	21	53	0.09	- 0.56	0.05	0.0	2	27	0	sw.	
Intake.	Gila.	2,230	5								0.07		0.06	0	2	27	0	w.	
Jerome.	Javapai.	4,743	13	64.4	+ 1.5	92	9	42	21	30	0.81	- 0.15	0.58	0.0	2	23	6	2.	
Keams Canyon.	Navajo.	6,600	7	52.2		83	9	25	21†	46	0.84		0.35	0.0	4	18	11	ne.	
Kingman.	Mohave.	3,326	9	64.8		99	8	32	13	49	0.65		0.23	0.0	4	18	11	ne.	
Lewis Springs.	Cochise.	4,029	1								0.02		0.02	0.0	1	28	3	sw.	
Maricopa.	Pinal.	1,186	33								0.00		0.00	0	0			Southern Pacific Co.	
Mesa.	Maricopa.	1,244	16	69.8	0.0	103	7	42	18†	48	0.13	- 0.33	0.11	0.0	2	23	7	sw.	
Mohawk Summit.	Yuma.	538	10	73.8	- 3.0	103	3†	50	6†	53	T.	- 0.19	0.0	0	27	3	1.		
Naco.	Cochise.	4,579	1								0.24		0.24	0	1	26	5	w.	
Natural Bridge.	Gila.	4,990	21								0.42	- 0.83	0.25	0.0	2	18	11	sw.	
Nozales.	Santa Cruz.	3,830									0.25		0.25	0.0	2	20	9	sw.	
Oracle.	Pinal.	4,500	18	65.4	+ 1.7	94	8	42	17	41	0.29	- 0.48	0.23	0.0	3	20	9	sw.	
Osborn.	Cochise.	4,676	1								0.25		0.25	0.0	1	27	3	w.	
Paradise.	do.	3,940	3	59.2		87	24</td												

TABLE 1.—*Climatological data for October, 1910. District No. 9—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .01 inch or more.	Number of partly cloudy days.	Number of cloudy days.				
Arizona—Cont'd.																					
Silverbell.	Pima.	2,650	5	75.3	.....	99	6	52	13	29	0.08	.....	0.07	0.0	2	26	4	w.	Imperial Copper Co.
Snowflake.	Navajo.	5,644	1	52.4	.....	88	9	24	21	54	0.64	.....	0.41	0.0	2	10	16	n.	W. J. Flake.
Supai.	Coconino.	3,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Coe.	
Tempe.	Maricopa.	1,165	6	70.5	.....	102	8	43	17	50	0.09	.....	0.09	0.0	1	28	3	ne.	F. H. Simmons.
Thatother.	Graham.	2,800	7	66.3	.....	96	4	35	17	50	0.04	.....	0.03	0.0	2	22	9	se.	Prof. J. H. Larson.
Tombstone.	Cochise.	4,550	16	63.9	- 0.3	87	8	40	16	34	0.09	- 0.28	0.09	0.0	1	26	5	.....	F. N. Walcott.	
Truxton.	Mohave.	4,197	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. M. Atkinson.	
Tuba.	Coconino.	4,500	11	54.4	.....	85	71	24	22	51	0.15	.....	0.07	0.0	3	12	13	n.	G. H. Kraus.
Tucson.	Pima.	2,390	31	70.4	+ 0.9	101	8	37	17	47	0.04	- 0.48	0.02	0.0	2	9	21	nw.	University of Arizona.		
Vail.	do.	3,421	12	69.0	- 1.3	98	8	34	17	47	0.05	- 0.13	0.04	0.0	2	23	6	s.	Southern Pacific Co.		
Walnut Grove.	Yavapai.	3,649	20	0.70	- 0.02	0.60	0.0	2	20	11	0	J. O. Carter.
Wickenburg.	Maricopa.	2,072	11	66.6	+ 1.5	109	8	40	13	55	0.03	- 0.12	0.02	0.0	2	25	3	w.	Santa Fe, Pres't & Phoenix.		
Willcox.	Cochise.	4,164	30	61.4	- 0.9	90	17	33	17†	52	0.12	- 0.43	0.13	0.0	1	17	0	s.	Southern Pacific Co.		
Williams.	Coconino.	6,750	11	54.0	+ 0.6	85	8	24	21	46	0.37	- 0.67	0.19	0.0	3	22	8	sw.	E. J. Nordyke.		
Winslow.	Navajo.	4,853	7	55.9	.....	91	9	22	21	54	0.03	.....	0.03	0.0	1	23	3	.....	J. F. Bauer.
Yarnell.	Yavapai.	4,700	12	.....	.....	.....	.....	.....	.....	.....	0.70	- 0.04	0.50	0.0	2	20	8	s.	E. L. Bartholomew.
Yuma.	Yuma.	141	31	73.2	- 0.2	106	8	44	13	46	0.07	- 0.12	0.07	0.0	1	29	2	w.	U. S. Weather Bureau.		
Nevada.																					
Caliente.	Lincoln.	4,407	....	53.5	.....	85	10	27	13	51	0.08	.....	0.04	0.0	3	23	7	ne.	Agent Salt Lake Route.
Las Vegas.	Clark.	2,033	2	.....	.....	101	8	37	21†	51	0.52	.....	0.37	0.0	2	20	5	n.	Salt Lake Route.
Logan.	do.	1,700	3	65.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ray. M. Filcher.	

*, †, ‡, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

• Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

Data are from standard instruments not supplied by the U. S. Weather Bureau.

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

|| Estimated by observer.

¶ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for October, 1910. District No. 9, Colorado Valley.*

TABLE 2.—*Daily precipitation for October, 1910. District No. 9—Continued.*

TABLE 2.—*Daily precipitation for October, 1910. District No. 9—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations, October, 1910: District No. 9, Colorado Valley.

Date.	Wyoming.				Colorado.								Utah.								New Mexico.							
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Port Duchesne.		Hite.		Moab.		St. George (Experiment station).		Fort Bayard.		Fort Wingate.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	72	21	75	32	76	36	82	49	73	20	77	32	76	22	76	41	78	36	88	49	90	42	80	52	84	52	73	41
2...	57	34	68	41	62	39	79	47	74	19	65	25	53	36	75	42	68	47	76	56	80	50	81	47	80	50	71	37
3...	57	17	68	24	66	31	66	40	70	21	59	41	63	19	70	31	67	30	78	46	85	25	83	43	83	55	73	33
4...	53	29	59	31	68	34	70	42	64	21	58	40	53	27	66	40	66	40	82	46	76	46	85	48	82	49	73	41
5...	51	15	60	24	71	37	68	42	63	24	59	23	56	21	69	66	66	29	85	45	75	38	85	43	85	55	71	42
6...	65	17	70	24	72	31	74	41	60	15	.....	.....	73	14	70	39	72	28	86	42	78	33	90	40	84	46	78	34
7...	69	20	79	30	78	33	75	42	70	25	72	33	75	16	76	36	76	32	89	44	82	34	90	38	80	42	81	35
8...	74	25	81	32	83	37	82	44	77	15	82	25	84	20	78	39	81	30	90	46	82	34	93	40	84	40	80	38
9...	75	20	85	30	83	39	81	33	75	16	83	26	83	19	80	31	82	34	90	44	84	34	96	39	81	55	85	35
10...	76	20	86	28	77	40	85	48	78	19	82	29	89	18	81	32	83	31	91	47	86	36	96	42	78	47	84	41
11...	75	24	69	32	63	41	71	42	78	20	75	30	80	27	82	31	69	35	86	57	79	43	90	43	76	45	70	35
12...	62	25	68	47	67	36	77	54	70	25	71	25	75	25	75	30	69	35	86	56	79	49	74	47	80	45	69	36
13...	55	32	68	33	68	37	72	49	76	24	70	36	66	27	73	39	68	34	86	50	77	44	76	32	79	45	71	38
14...	58	26	61	34	72	46	64	47	74	28	60	33	65	23	71	30	66	38	81	58	77	41	79	43	75	35	72	49
15...	60	25	61	30	54	45	64	46	85	30	64	26	74	22	75	31	60	34	75	51	77	45	70	52	78	52	72	49
16...	58	22	62	28	58	38	58	48	53	29	62	25	76	26	70	30	64	38	68	49	66	50	70	46	74	50	59	42
17...	56	23	49	38	46	34	54	43	48	33	48	31	61	32	70	30	62	40	69	46	60	45	73	46	70	33	60	43
18...	54	20	49	29	51	33	54	40	48	30	62	41	41	32	62	31	57	37	67	48	57	43	71	44	71	37	56	40
19...	48	18	40	28	42	32	53	34	47	25	48	31	38	28	60	32	51	36	65	47	58	45	76	41	69	35	66	42
20...	48	15	44	14	37	27	48	39	40	25	42	16	40	10	63	35	47	20	59	39	53	25	69	46	56	34	51	31
21...	50	13	55	24	46	19	51	30	46	7	52	17	50	10	60	30	52	22	61	36	60	26	73	30	58	33	50	20
22...	54	22	56	21	58	27	60	31	48	10	62	19	61	13	61	35	53	21	66	35	62	25	73	29	68	30	58	34
23...	58	20	61	25	62	30	63	30	52	12	63	21	60	17	61	30	63	26	73	37	61	29	80	32	70	34	63	23
24...	56	14	63	27	65	30	66	37	58	14	64	23	62	18	62	33	65	27	68	39	68	30	81	32	74	37	56	22
25...	45	19	69	26	67	33	68	40	60	9	60	24	65	20	60	35	66	29	75	40	71	33	83	36	75	45	58	22
26...	53	4	59	27	69	32	67	34	64	15	61	20	55	21	63	30	70	27	79	40	74	32	80	35	75	42	61	28
27...	58	12	47	21	63	31	58	34	70	10	47	17	43	14	60	30	53	26	67	49	73	36	77	37	72	51	64	34
28...	56	11	61	13	57	26	62	30	64	9	51	10	56	4	66	33	55	18	65	36	62	26	77	32	63	33	65	35
29...	59	12	58	15	63	27	61	27	72	7	64	15	64	10	61	35	59	17	71	33	64	24	76	30	65	37	67	27
30...	58	15	55	13	65	30	67	31	68	9	62	29	63	12	65	28	62	21	62	38	67	25	76	35	68	38	68	31
31...	54	15	60	19	65	33	65	30	58	11	60	19	58	13	60	29	64	23	63	39	69	30	77	35	71	39	66	30
Mns	58.8	19.4	62.8	27.1	68.7	33.7	66.6	39.3	63.3	18.6	62.8	26.9	62.7	19.9	68.0	33.4	65.1	30.4	75.7	45.0	72.3	36.4	79.9	39.7	74.6	43.5	67.4	34.7

Date.	Arizona.																Tucson.								Yuma.				Logan, Nev.							
	Bisbee.				Flagstaff.				Fort Apache.				Grand Canyon.				Parker.				Phoenix.				Prescott.				St. Michaels.				San Carlos.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1...	78	61	63	36	84	42	.....	.....	95	55	80	64	69	40	82	37	89	52	85	64	93	67	95	51	.....	.....	.....	.....	.....	.....	.....	.....	.....
2...	72	54	65	42	72	38	.....	.....	95	50	87	60	70	48	87	42	83	47	97	56	94	63	98	49	.....	.....	.....	.....	.....	.....	.....	.....	.....
3...	75	57	70	28	78	37	.....	.....	102	50	92	59	74	46	73	32	91	47	92	53	98	57	105	46	.....	.....	.....	.....	.....	.....	.....	.....	.....
4...	76	57	66	34	78	40	.....	.....	100	52	92	55	68	43	77	37	92	46	93	52	97	58	106	46	.....	.....	.....	.....	.....	.....	.....	.....	.....
5...	78	54	69	36	82	38	.....	.....	104	50	94	64	78	45	71	31	94	50	94	55	97	65	106	50	.....	.....	.....	.....	.....	.....	.....	.....	.....
6...	77	57	74	31	84	43	.....	.....	106	80	100	62	83	36	78	39	92	51	97	55	103	63	95	55	.....	.....	.....	.....	.....	.....	.....	.....	.....
7...	77	51	73	33	84	35	.....	.....	110	50	99	60	83	41	84	32	93	55	95	67	105	66	95	54	.....	.....	.....	.....	.....	.....	.....	.....	.....
8...	81	53	78	30	83	40	.....	.....	108	5																								